ABSTRACT

Explanatory note size – 89 pages, contains 29 illustrations, 3 tables, 1 appendix, 35 references.

Topicality. For the first time, a structural study was planned and carried out for software engineering ecosystems of one type, namely application software creation ecosystems. The research results can be applied in the practical study of ecosystems of this type. An ontological representation of the structure of ecosystems for the creation of application software is proposed, which is aimed at application in the practical study of ecosystems of the corresponding type. A metric description of the structure of applied software creation ecosystems is proposed, which can be used in the study of other types of software engineering ecosystems. On the example of the company, a field study was carried out, the structure of the application software creation ecosystem was determined and studied.

The aim of the study. The main goal is to expand software engineering research methods by applying the ecosystem concept.

The object of research: software engineering research methods.

The subject of research: approaches, methods, models for structural research in software engineering by applying the ecosystem concept.

To achieve this goal, the **following tasks** were formulated:

- determine the current state of research in the direction of dissertation work;
- develop a methodology for structural research in software engineering using the ecosystem concept;
- to propose an ontological representation and metric support of the structure of one type of software engineering ecosystem;
- validate and verify the proposed representation;
- develop a software tool for visualizing the structure of one type of software engineering ecosystem;
- conduct a field study, determine and study the structure of the ecosystem on the example of an IT company;

The scientific novelty of the results of the master's thesis is that, for the first time, a structural study was planned and carried out for software engineering ecosystems of one type, namely, ecosystems of application software creation. The research results can be applied in the practical study of ecosystems of this type. An ontological representation of the structure of applied software creation ecosystems is proposed, which is aimed at practical application

The practical value of the obtained results is that the proposed ontological representation, metric description and visualization tool can be applied in the practical study of the ecosystems of the creation of applied software, and is also a basis for the study of ecosystems of software engineering of other types.

Relationship with working with scientific programs, plans, topics. Work was performed at the Department of Informatics and Software Engineering of the National Technical University of Ukraine «Kyiv Polytechnic Institute. Igor Sikorsky».

Approbation. The results of the work were reported at the VI International Scientific and Practical Conference of Young Scientists and Students "SOFTWARE ENGINEERING AND ADVANCED INFORMATION TECHNOLOGIES" (SoftTech-2024).

Publications. The scientific provisions of the dissertation were published in:

1. Безотосний Д. К. ВЗАЄМОДІЯ ТА МОДЕЛЮВАННЯ В ЕКОСИСТЕМАХ ПРОГРАМНОГО ЗАБЕЗПЕЧЕННЯ: ВІД ПРИРОДНИХ ОСНОВ ДО ІНЖЕНЕРНИХ ЗАСТОСУВАНЬ // Innovative development of science, technology and education. Proceedings of the 7th International scientific and practical conference. Perfect Publishing. Vancouver, Canada. 2024. Pp. 140-143. URL: https://sci-conf.com.ua/vii-mizhnarodna-naukovo-praktichna-konferentsiya-innovative-development-of-science-technology-and-education-11-13-04-2024-vankuver-kanada-arhiv/.
2. Безотосний Д.К. ПРЕДСТАВЛЕННЯ ЕКОСИСТЕМ ІНЖЕНЕРІЇ ПРОГРАМНОГО ЗАБЕЗПЕЧЕННЯ НА СТРУКТУРНОМУ РІВНІ.

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